

HW ANSWERS: p. 314 #29, 31, 32, 37

29) (a) - randomize which shoe they run in first
- make sure they have ample rest in between
each race

(b) because they only used 100m dash Olympians in
their sample

31) (a) random assignment reduces bias and lurking or confounding variables

(b) Control groups allow us to see how the athletes would react with no treatment, and then we can accurately compare the treatment groups to no treatment to see the real level of improvement.

(c) The evaluators (those deciding if the athletes are ready to go back to sports) would not know who had which treatment

(d) Hard to tell. The difference seems significant (~15 days), but the std. dev's are so different.... large variability

32) (a) reduces lurking or confounding variables. Self-selection could introduces many lurking variables.

(b) so that there was no chance of them being wrong, or the subjects altering the meals, and assured all subjects got the same diet.

(c) the control group helped rule out the possibility of other lurking variables accounting for a lower blood pressure. If they have a control, they can compare no trt to the trt to really see the effects, and rule out lurking variables

(d) standard deviation and sample size

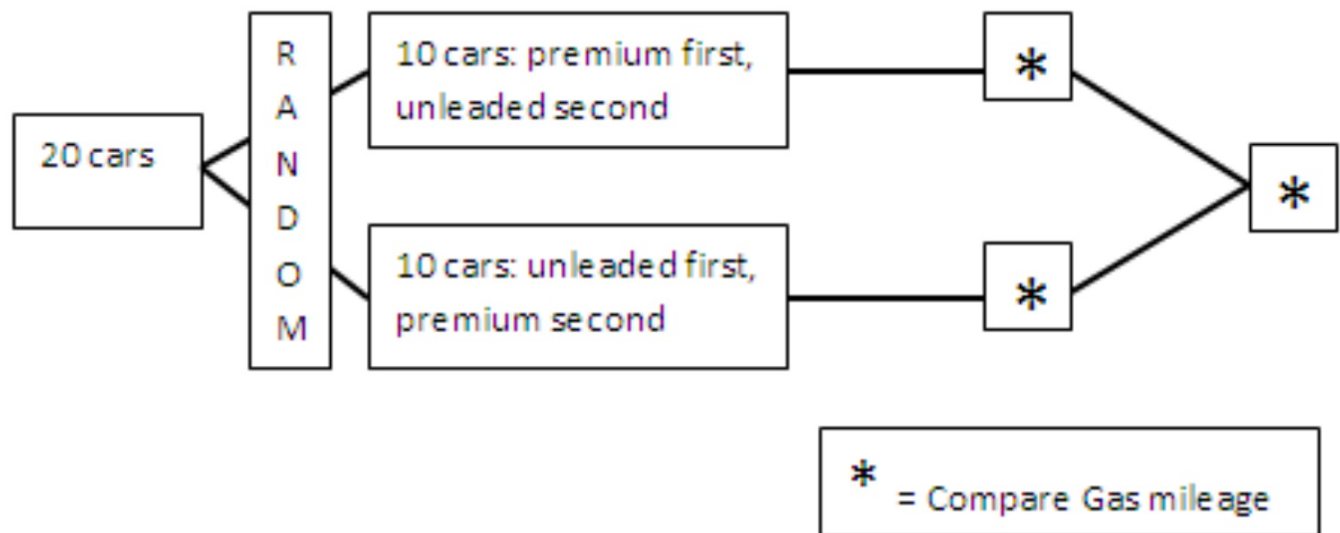
37) (a) randomly assign (using table or software) half of the containers to have water and half to not.

(b) $12/20 = 60\%$

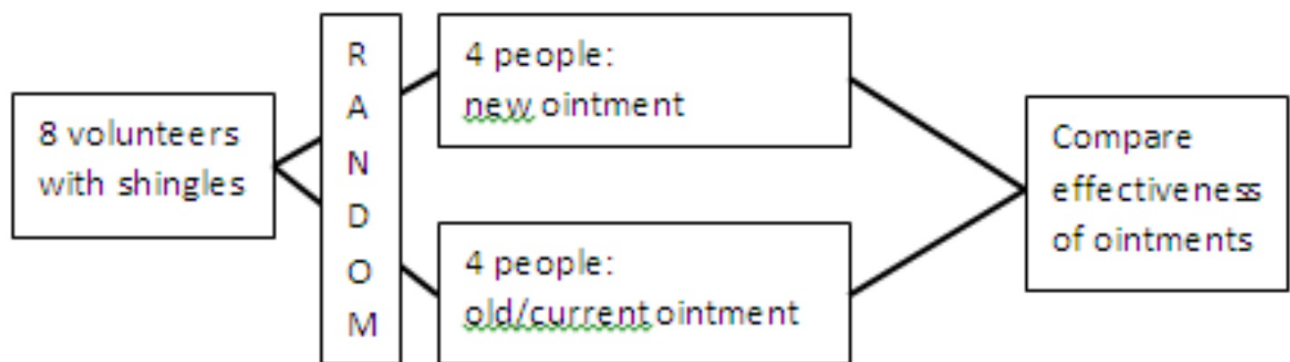
Since guessing would mean that they should be able to identify half (50%), then 60% does not seem significant

(c) above 80% probably

40)



42) (a) no placebo b/c it is a very painful condition



(b)

* Assign each person a number

A = 1 B = 2 C = 3 H = 8

* Use the section of the table given, read across one digit at a time. The first 4 numbers (between 1 & 8) that we see will be assigned to the old trt, and the rest are assigned to the new trt. Ignore repeats.

* Old Trt = 4, 1, 8, 3

New Trt = 2, 7, 5, 6

(c) Yes. The people using the medication do not have to know whether they have the old or new ointment (assuming the look/smell/feel the same). Also the researchers that have interaction with the subjects do not have to know who has which med either.

(d)

